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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,322	03/12/2004	Hsin-Tao Huang	26054	6141

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EXAMINER	
CALEY, MICHAEL H	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/798,322	HUANG, HSIN-TAO	
	Examiner	Art Unit	
	Michael H. Caley	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. Patent No. 5,317,438 "Suzuki").

Regarding claim 1, Suzuki discloses a method of inspecting a liquid crystal display panel comprising the steps of:

temporally fastening the liquid crystal display panel (Figure 4 elements 1 and 2) and a driver IC device (Figure 4 elements 4A and 12; Column 7 lines 34-61);

inspecting the liquid crystal display panel for defects (Column 5 lines 42-47, Column 6 lines 10-12, Column 8 lines 12-17, See Applicant's Specification, Pages 8-9 for examples of "defects"); and

fastening the liquid crystal display and the driver IC chip securely (Column 6 line 60 – Column 7 line 33).

Regarding claim 2, Suzuki discloses a step of repairing the liquid crystal display panel if the defects are found at the step of inspecting (Column 8 lines 12-17).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mase et al. (U.S. Patent No. 5,261,156 "Mase") in view of Bayer et al. (U.S. Patent No. 5,366,573 "Bayer").

Regarding claim 3, Mase discloses a method for inspecting a display panel comprising the steps of:

heating a conductive adhesive to temporally fasten the display panel and a chip (Column 3 line 6, Column 4 lines 58-60, Column 5 lines 8-11), wherein the conductive adhesive comprises a thermosetting resin (Column 5 line 11), a photo-curable adhesive (Column 5 lines 10-11), and conductive grains (Figure 3 element 44); and

inspecting the display panel for defects (Figure 4).

Mase fails to explicitly disclose the adhesive as a polymer and as comprising a photo-initiator. Bayer, however, teaches a UV-curable adhesive as a polymer having a photo-initiator (Column 2 lines 24-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the adhesive disclosed by Mase as a polymer adhesive having a photo-initiator. One would have been motivated to form the adhesive as a polymer according to the

teachings of Bayer such that it may be easily dissolved by a solvent in the event of removal of the chip (Column 2 lines 48-49). Furthermore, one would have been motivated to include a photo-initiator in the adhesive such that it may be cured by UV light (Column 2 line 43).

Regarding claim 14, Mase discloses the proportion of the thermosetting resin and the photo-curable polymer as ranged from 50:50 to 90:10 (Column 4 line 56 – Column 5 line 11).

Claims 4-6, 12, 13, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mase in view of Bayer and in further view of Nishida (U.S. Patent No. 5,858,806 "Nishida").

Regarding claim 4, Mase fails to disclose the step of inspecting the defects for repairing when the display panel has defects. Nishida, however, teaches a process for inspecting defects for repairing in a process of mounting an IC component to a flat panel display (abstract; Column 9 lines 14-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to inspect the defect for repairing if the display panel has defects. One would have been motivated to inspect the defect to determine whether the defect is repairable due to a faulty connection or the defect is not repairable due to a defective IC component according to teachings of Nishida.

Regarding claim 5, Mase fails to disclose a step of sealing the display panel and the chip. Nishida, however, teaches a process of sealing the display panel and the chip with a protective epoxy seal (Figure 10 element 89; Column 12 lines 56-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to seal the display panel and the chip with a protective seal. One would have been motivated to apply such a seal as a means of protecting the electrical connecting portion between the IC component and the liquid crystal display.

Regarding claims 6 and 19, Mase as modified by Bayer discloses the step of lighting the conductive adhesive polymer to securely fasten the display panel and the chip (Column 5 line 10).

Regarding claims 12 and 13, Mase as modified by Bayer fails to specify an optical inspecting step and an electrical inspecting step. Nishida, however, teaches such inspecting steps as necessary to confirm correct positional alignment of the IC component, electrical connection of the IC component and the display panel, and functionality of the IC component (Column 18 lines 41-49.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform an optical inspection step and an electrical inspection step in the display device disclosed by Mase. One would have been motivated to perform the optical and electrical inspecting steps to ensure proper operation of the display panel and driver IC device according to the teachings of Nishida.

Regarding claim 16, Mase fails to disclose the composition of the thermosetting resin. Nishida, however, teaches an epoxy compound as a suitable adhesive for a thermosetting resin used in an analogous temporary bonding process (Column 11 lines 21-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an epoxy compound as the thermosetting resin in the display device disclosed by Mase. One would have been motivated to use an epoxy compound for the thermosetting resin due to its known ability to function as a temporary adhesive, as taught by Nishida.

Regarding claim 17, Mase discloses the photo-curable adhesive as ultraviolet photo-curable (Column 6 line 32).

Regarding claim 18, Mase fails to explicitly disclose the ultraviolet photo-curable adhesive as one of the proposed compounds. Bayer, however, teaches a UV-curable adhesive as an acrylate resin (Column 2 lines 24-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the adhesive disclosed by Mase as an acrylate resin. One would have been motivated to form the adhesive as an acrylate resin according to the teachings of Bayer such that it may be easily dissolved by a solvent in the event of removal of the chip.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mase in view of Bayer and Nishida and in further view of Suzuki et al. (U.S. Patent No. 5,317,438 "Suzuki").

Regarding claims 7-11, Mase as modified by Bayer and Nishida fails to disclose the sealant applied to the display panel and chip as photo-curable and cured by lighting. Suzuki, however, teaches such a sealant as photo-curable by ultraviolet light so that it does not suffer from deterioration from the outside air, as would a thermosetting resin (Column 7 lines 4-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a photo-curable sealant to the display panel and chip. One would have been motivated to use a photo-curable sealant in order to avoid deterioration of the sealant according to the teachings of Suzuki.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mase in view of Bayer and in further view of Liebing et al. (U.S. Patent No. 6,479,563 "Liebing").

Mase as modified by Bayer fails to disclose a proportion of a photoinitiator. Liebing, however, teaches an analogous radiation-curable adhesive having a photoinitiator proportion within the proposed range (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a photoinitiator within the proposed proportion in the display device adhesive disclosed by Mase. One would have been motivated to provide a photoinitiator at such a proportion due to the known capability of such a proportion to provide a desirable photosensitive effect to the adhesive (Column 1 lines 42-54, Column 2 lines 50-57).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael H. Caley
December 8, 2005
mhc

ANDREW SCHECHTER
PRIMARY EXAMINER